

ABSTRACT OF THE DISCLOSURE

A system and method for searching data strings, such as network messages, for one or more predefined regular expressions is provided. Regular expressions are programmed into a pattern matching engine so that multiple characters, e.g., 32, of the data strings can be searched at the same time. The pattern matching engine includes a regular expression storage device having one or more content-addressable memories (CAMs) whose rows may be divided into sections. Each predefined regular expression is analyzed so as to identify the "borders" within the regular expression. A border is preferably defined to exist at each occurrence of one or more predefined metacharacters, such as
10 ".*", which finds any character zero, one or more times. The borders separate the regular expression into a sequence of sub-expressions each of which may be one or more characters in length. Each sub-expression is preferably programmed into a corresponding section of the pattern matching engine. The system may also be configured so as to search multiple regular expressions in parallel.